IN THE CLAIMS

The following listing of claims replaces all prior listings in the application:

1. (currently amended) In a blown film extrusion apparatus in which film is extruded as a tube from an annular die and then pulled along a predetermined path and located within an adjustable sizing cage, an apparatus for startup of said extruded film tube, comprising:

(a) means for varying a quantity of air within said extruded film tube, including:

(1) a supply blower which supplies air to said extruded film tube in an amount corresponding to a supply control signal, and

(2) an exhaust blower which exhausts air from said extruded film tube in an amount corresponding to an exhaust control signal;

(b) a controller member including executable program instructions which define at least one control routine for automatic and coordinated control of said means for varying during starting of said extruded film tube by directing a series of supply control signals to said supply blower and/or exhaust control signals to said exhaust blower;

(c) a sizing cage subsystem surrounding said extruded film tube and including an electrically-actuable and controllable actuator for moving said sizing cage inward and outward relative to said extruded film tube;

(d) ~~at least one~~ a first non-contact sensor for measuring a ~~sensor-to-tube~~ distance between said cage subsystem and said extruded tube;

(e) second and third non-contact sensors for measuring a diameter of said extruded tube;

~~(e)~~ (f) wherein said executable program instructions include a cage position control routine which utilizes said ~~sensor-to-tube~~ cage subsystem-to-tube distance to calculate a location of said sizing cage subsystem.

2. (currently amended) An apparatus for startup of an extruded film tube, according to Claim 1, further comprising:

~~(f)~~ (g) wherein said ~~at least one non-contact sensor comprises a pair of non-contact sensors located on opposite sides of~~ second and third non-contact sensors are located in fixed positions equally spaced around said sizing cage subsystem.

3. (currently amended) An apparatus for startup of an extruded film tube, according to Claim 1, further comprising:

~~(f) wherein said at least one non-contact sensor comprises at least one acoustic sensor.~~

(g) wherein said first non-contact sensor is mounted to a moving arm of said sizing cage subsystem, wherein movement of said sizing cage subsystem results in a corresponding movement of said first non-contact sensor.

4. (Cancelled)

5. (Cancelled)

6. (currently amended) An apparatus for startup of an extruded film tube, according to Claim 1, further comprising:

~~(f)~~ (g) wherein said cage position control routine further includes a cage positioning routine which utilizes said electrically-actuable and controllable actuator to reposition said sizing cage subsystem in response to a predetermined set point defining a finished product diameter.

7. (currently amended) An apparatus for startup of an extruded film tube, according to Claim 6, further comprising:

~~(f)~~ (h) wherein said cage position control routine includes at least the following two modes of operation:

(1) a forecast mode of operation wherein said sizing cage subsystem is located a relatively large distance from said predetermined set point; and

(2) a contact mode of operation wherein said sizing cage subsystem is located a relatively small distance from said predetermined set point.

8. (currently amended) An apparatus for startup of an extruded film tube, according to Claim 7, further comprising:

~~(g)~~ (i) wherein during said forecast mode of operation, control signals are supplied to said controller by said cage position control routine which cause a movement of said sizing cage subsystem through a series of steps.

9. (currently amended) An apparatus for startup of an extruded film tube, according to Claim 7, further comprising:

~~(h)~~ (i) wherein during said contact mode of operation, a user is permitted to introduce slight overage or underage values to said extruded film tube in order to slightly move said sizing cage subsystem inward or outward to over-squeeze or under-squeeze said extruded film tube.

10. (currently amended) An apparatus for startup of an extruded film tube, according to Claim 8, further comprising:

~~(f)~~ (j) wherein said blown film extrusion apparatus includes a lay-flat control system which provides a control system for monitoring and adjusting a finished product diameter for said extruded film tube; and

~~(g)~~ (k) wherein during said forecast mode of operation, control signals are supplied to said controller by said cage position control routine to said layflat control system which are inaccurate measurements of said finished product diameter for said extruded film tube, causing said ~~layflat control system~~ sizing cage subsystem to predominantly control said layflat control system ~~sizing cage subsystem~~.

11. (new) An apparatus for startup of an extruded film tube, according to Claim 8, wherein, during said forecast mode of operation, said control signals are supplied to move said sizing cage subsystem, through said series of steps, to a desired position for said extruded film tube.

12. (new) A method of operating a blown film extrusion apparatus, in which film is extruded as a tube from an annular die and then pulled along a predetermined path and located within an adjustable sizing cage, comprising the steps of:

varying a quantity of air within the extruded film tube to cause the extruded film tube to maintain a desired diameter;

measuring a diameter of the extruded film using at least second and third non-contact sensors;

measuring a distance between the adjustable sizing cage and the extruded film using a first non-contact sensor, and generating a control signal proportional thereto;

within an automatic controller, utilizing the control signal to calculate a desired sizing cage position; and

driving an electrically driven actuator to position the sizing cage at the desired sizing cage position.

13. (new) The method of Claim 12, wherein the automatic controller operates in at least the following two modes of operation:

(1) a forecast mode of operation wherein the adjustable sizing cage is located a relatively large distance from a predetermined set point; and

(2) a contact mode of operation wherein the adjustable sizing cage is located a relatively small distance from the predetermined set point;

wherein during the forecast mode of operation, the automatic controller provides control signals to drive the electrically driven actuator to position the sizing cage, through a series of steps, to the predetermined set point.

14. (new) The method of Claim 13, wherein during the contact mode of operation, the automatic controller provides control signals to drive the electrically driven actuator to position the sizing cage a selected distance from the extruded film tube.

15. (new) The method of Claim 13, wherein an operator is permitted to introduce slight overage or underage values to the controller, wherein the controller drives the actuator to slightly move the sizing cage inward or outward to over-squeeze or under-squeeze the extruded film tube.